WHAT IS CLAIMED IS:

1.      A defect inspection method comprising the steps of:

applying a focused electron beam onto a sample and conducting scanning;

detecting secondary electrons generated from an inspection subject region of said sample at the focused electron beam applying step by using detectors installed in a plurality of directions, thereby obtaining external appearance images of the inspection subject region of said sample picked up from the plurality of directions;

picking up images of a comparison subject region designed so as to originally have an external appearance identical with that of the inspection subject region of said sample from a plurality of directions identical with those of the inspection subject region, thereby obtaining external appearance images of the comparison subject region picked up from the plurality of directions;

correcting mis-registrations between the external appearance images of the inspection subject region of said sample picked up from the plurality of directions and the external appearance images of the comparison subject region picked up from the plurality of directions that respectively correspond to the external appearance images of the inspection subject region picked up from the plurality of directions; and

detecting defects of the inspection subject region by using the external appearance images of the inspection subject region of said sample picked up from the plurality of directions and the external appearance images of the comparison subject region picked up from the plurality of directions corrected in mis-registrations.

2.	The defect inspection method according to claim 1, wherein at the step of obtaining external appearance images of the inspection subject region of said sample,

the external appearance images of the inspection subject region of said sample picked up from the plurality of directions comprise two perspective images obtained by picking up an image of the inspection subject region of said sample from each of two opposed directions, and a non-directional electron image, and

the external appearance images of the comparison subject region picked up from the plurality of directions comprise two perspective images obtained by picking up an image of the comparison subject region from each of two opposed directions, and a non-directional electron image.

3.	The defect inspection method according to claim 1, wherein the step of correcting the mis-registrations comprises the substeps of:

mixing two perspective images obtained by

picking up an image of the inspection subject region of said sample from each of two opposed directions with a non-directional electron image, thereby synthesizing a first mixed image;

mixing two perspective images obtained by picking up an image of the comparison subject region of said sample from each of the two opposed directions with a non-directional electron image, thereby synthesizing a second mixed image; and

comparing the first mixed image with the second mixed image, thereby obtaining mis-registration quantities respectively between the two perspective images and the non-directional electron image of the inspection subject region of said sample and the two perspective images and the non-directional electron image of the comparison subject region.

4.      The defect inspection method according to claim 3, wherein

the step of synthesizing the first mixed image comprises the substep of using information of a difference image between two perspective images obtained by picking up an image of the inspection subject region of said sample from each of two opposed directions, and

the step of synthesizing the second mixed image comprises the substep of using information of a difference image between two perspective images obtained by picking up an image of the comparison

subject region from each of two opposed directions.

5.      The defect inspection method according to claim 1, wherein

the step of correcting mis-registrations comprises the substep of correcting brightness of the external appearance images of the inspection subject region of said sample picked up from the plurality of directions and the external appearance images of the comparison subject region picked up from the plurality of directions corrected in mis-registrations, and

the step of detecting defects of the inspection subject region comprises the substep of detecting defects of the inspection subject region corrected in brightness.

6.      The defect inspection method according to claim 1, wherein the step of detecting defects of the inspection subject region comprises the substeps of:

using information of a difference image and a sum image of two perspective images obtained by picking up an image of the inspection subject region of said sample from each of two opposed directions; and

using information of a difference image and a sum image of two perspective images obtained by picking up an image of the comparison subject region from each of two opposed directions.

7.      The defect inspection method according to claim 1, wherein the step of detecting defects of the inspection subject region comprises the substeps of:

obtaining a difference image between a non-directional electron image obtained by picking up an image of the inspection subject region of said sample and a non-directional electron image obtained by picking up an image of the comparison subject region, by using local perturbation; and

detecting defects of the inspection subject region by using information of the difference image obtained by using the local perturbation.

8.        A defect inspection method according to claim 1, further comprising the step of classifying the detected defects.

9.        A defect inspection method comprising the steps of:

applying a focused electron beam onto a sample and conducting two-dimensional scanning on an inspection subject region;

detecting secondary electrons generated from an inspection subject region of said sample at the focused electron beam applying step by using a plurality of detectors, thereby obtaining a plurality of external appearance images of the inspection subject region of said sample;

picking up images of a comparison subject region designed so as to originally have an external appearance identical with that of the inspection subject region of said sample by using said plurality of detectors, thereby obtaining a plurality of external

appearance images of the comparison subject region;

combining the plurality of external
appearance images of the inspection subject region of
said sample to form a first synthetic image and
combining the plurality of external appearance images
of the comparison subject region to form a second
synthetic image;

obtaining a mis-registration quantity between
the formed first synthetic image and the formed second
synthetic image;

correcting mis-registrations between the
plurality of external appearance images of the
inspection subject region of said sample and the
plurality of external appearance images of the
comparison subject region that respectively correspond
to the plurality of external appearance images of the
inspection subject region, based on the obtained mis-
registration quantity; and

detecting defects of the inspection subject
region by using the plurality of external appearance
images of the inspection subject region of said sample
and the plurality of external appearance images of the
comparison subject region corrected in the mis-
registrations.

10.    The defect inspection method according to
claim 9, wherein at the step of obtaining external
appearance images of the inspection subject region of
said sample,

the plurality of external appearance images of the inspection subject region of said sample comprise two perspective images obtained by picking up an image of the inspection subject region of said sample from each of two opposed directions, and a non-directional electron image, and

the plurality of external appearance images of the comparison subject region comprise two perspective images obtained by picking up an image of the comparison subject region from each of two opposed directions, and a non-directional electron image.

11.      The defect inspection method according to claim 9, wherein the step of correcting the mis-registrations comprises the substeps of:

mixing two perspective images obtained by picking up an image of the inspection subject region of said sample from each of two opposed directions with a non-directional electron image, thereby synthesizing a first mixed image;

mixing two perspective images obtained by picking up an image of the comparison subject region of said sample from each of the two opposed directions with a non-directional electron image, thereby synthesizing a second mixed image; and

comparing the first mixed image with the second mixed image, thereby obtaining mis-registration quantities respectively between the two perspective images and the non-directional electron image of the

inspection subject region of said sample and the two
perspective images and the non-directional electron
image of the comparison subject region.

12. A defect inspection method comprising the
steps of:

applying a focused electron beam onto a
sample and conducting scanning;

picking up images of an inspection subject
region of said sample from a plurality of directions,
thereby obtaining a plurality of external appearance
images of the inspection subject region;

picking up images of a comparison subject
region designed so as to originally have an external
appearance identical with that of the inspection
subject region of said sample from a plurality of
directions, thereby obtaining a plurality of external
appearance images of the comparison subject region;

detecting defects of said sample by using the
plurality of external appearance images of the
inspection subject region and the plurality of external
appearance images of the comparison subject region;

classifying the detected defects; and

displaying the classified defects on a
screen.

13. The defect inspection method according to
claim 12, wherein at the step of picking up images of
an inspection subject region of said sample,

the plurality of external appearance images

of the inspection subject region of said sample

comprise two perspective images obtained by picking up

an image of the inspection subject region of said

sample from each of two opposed directions, and a non-

directional electron image, and

the plurality of external appearance images

of the comparison subject region comprise two

perspective images obtained by picking up an image of

the comparison subject region from each of two opposed

directions, and a non-directional electron image.

14.     The defect inspection method according to

claim 12, wherein the step of detecting said defects

comprises the substeps of:

correcting mis-registrations between the

plurality of external appearance images of the

inspection subject region and the plurality of external

appearance images of the comparison subject region; and

detecting defects by comparing the plurality

of external appearance images of the inspection subject

region and the plurality of external appearance images

of the comparison subject region corrected in the mis-

registrations.

15.     The defect inspection method according to

claim 14, wherein the step of correcting the mis-

registrations comprises the substeps of:

mixing two perspective images obtained by

picking up an image of the inspection subject region of

said sample from each of two opposed directions with a

non-directional electron image, thereby synthesizing a
first mixed image;

mixing two perspective images obtained by
picking up an image of the comparison subject region of
said sample from each of the two opposed directions
with a non-directional electron image, thereby
synthesizing a second mixed image;

comparing the first mixed image with the
second mixed image, thereby obtaining mis-registration
quantities respectively between the two perspective
images and the non-directional electron image of the
inspection subject region of said sample and the two
perspective images and the non-directional electron
image of the comparison subject region; and

correcting mis-registrations respectively
between the two external appearance images and the non-
directional electron image of the inspection subject
region of said sample and the two external appearance
images and the non-directional electron image of the
comparison subject region, based on the obtained mis-
registration quantities.

16.      A defect inspection method comprising the
steps of:

picking up images of a first region of a
sample from a plurality of directions, thereby
obtaining a plurality of external appearance images of
the first region;

picking up images of a second region of said

sample from a plurality of directions, thereby
obtaining a plurality of external appearance images of
the second region;

correcting mis-registrations between the
plurality of external appearance images of the first
region and the plurality of external appearance images
of the second region;

detecting defects of said sample by using the
plurality of external appearance images of the first
region and the plurality of external appearance images
of the second region corrected in the mis-
registrations;

classifying the detected defects; and

storing information concerning the classified
defects.

17.     The defect inspection method according to
claim 16, wherein at the step of picking up images of
the first region of said sample,

the plurality of external appearance images
of the first region of said sample comprise two
perspective images obtained by picking up an image of
the first region of said sample from each of two
opposed directions, and an image obtained by picking up
an image of the first region from a direction different
from the two opposed directions, and

the plurality of external appearance images
of the second region comprise two perspective images
obtained by picking up an image of the second region of

said sample from each of two opposed directions, and an
image obtained by picking up an image of the second
region from a direction different from the two opposed
directions

18.     The defect inspection method according to
claim 16, wherein the step of correcting the mis-
registrations comprises the substeps of:

mixing two perspective images obtained by
picking up an image of the first region of said sample
from each of two opposed directions with the image
obtained by picking up an image from the different
direction, thereby synthesizing a first mixed image;

mixing two perspective images obtained by
picking up an image of the second region of said sample
from each of two opposed directions with the image
obtained by picking up an image from the different
direction, thereby synthesizing a second mixed image;

comparing the first mixed image with the
second mixed image, thereby obtaining mis-registration
quantities respectively between the two perspective
images and the image obtained by picking up an image
from the different direction of the first region of
said sample and the two perspective images and the
image obtained by picking up an image from the
different direction of the second region of said
sample; and

correcting mis-registrations respectively
between the two perspective images and the image

obtained by picking up an image from the different direction of the first region of said sample and the two perspective images and the image obtained by picking up an image from the different direction of the second region, based on the obtained mis-registration quantities.

19.     The defect inspection method according to claim 16, wherein the step of detecting said defects uses,

information of a difference image and information of a sum image of two perspective images obtained by picking up an image of the first region of said sample from each of two opposed directions, and

information of a difference image and information of a sum image of two perspective images obtained by picking up an image of the second region from each of two opposed directions.

20.     The defect inspection method according to claim 16, further comprising the step of displaying information concerning the classified defects on a screen.

21.     A defect inspection method comprising the steps of:

picking up images of a first region of a sample from a plurality of directions, thereby obtaining a plurality of external appearance images of the first region;

picking up images of a second region of said

sample from a plurality of directions, thereby
obtaining a plurality of external appearance images of
the second region;

transmitting data of the plurality of
external appearance images of the first region of said
sample and data of the plurality of external appearance
images of the second region of said sample;

detecting defects of said sample by using the
transmitted plurality of external appearance images of
the first region of said sample and the transmitted
plurality of external appearance images of the second
region of said sample; and

classifying the detected defects.

22.      The defect inspection method according to
claim 21, wherein the step of detecting said defects
uses,

information of a difference image and
information of a sum image of two perspective images
obtained by picking up an image of the first region of
said sample from each of two opposed directions, and

information of a difference image and
information of a sum image of two perspective images
obtained by picking up an image of the second region
from each of two opposed directions.

23.      The defect inspection method according to
claim 21, wherein the step of detecting said defects
comprises the substeps of:

conducting processing on the transmitted

plurality of external appearance images of the first region of said sample and the transmitted plurality of external appearance images of the second region of said sample;

correcting mis-registrations between the plurality of external appearance images of the first region of said sample and the plurality of external appearance images of the second region of said sample; and

detecting defects of said sample by using the plurality of external appearance images of the first region and the plurality of external appearance images of the second region corrected in the mis-registrations.